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Molecular diversity and characterization of indigenous salt tolerant plant growth promoting rhizobacteria isolated from different agro climatic zones of Uttar Pradesh revealed *Bacillus* spp. as dominant genera

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A widespread investigation for 9 agro-climatic zones of Uttar Pradesh, India was conducted to isolate and characterize salt tolerant 1-aminocyclopropane-1-carboxylic acid (ACC) deaminase possessing plant growth promoting (PGP) rhizobacteria for salt stress amelioration in rice. For this study, we have isolated 1125 bacteria having the ability to tolerate 1M NaCl and screened for utilizing ACC as sole nitrogen source. The resultant 77 isolates were further evaluated for seed germination assay, PGP and abiotic stress tolerance ability *in vitro*. This evaluation revealed 15 potent rhizobacteria representing each agro-climatic zone and salt stress mitigation *in vitro*. In particular, the biomass obtained for bacteria coated rice seedlings were corroborated with the performance of isolates exhibiting maximum IAA production. Surprisingly based on 16S rRNA, much of the propitious isolates belonged to same specific epithet exhibited variedly in their characteristics. Overall, *Bacillus* spp. was explored as dominant genera *in toto* with highest distribution in Western plain zone followed by Central zone. Therefore, this study provides a counter-intuitive perspective of selection of native microflora for their multifarious PGP and abiotic stress tolerance abilities based on the agro-climatic zones to empower the establishment and development of more suitable inoculants for their application in agriculture under local stress environments.